

We claim:

1 1. A method for determining an antialiased intensity of a component of a pixel,
2 comprising:

3 representing a set of objects with a set of two-dimensional distance fields,
4 there being one distance field for each object;

5 associating, for each distance field in the set of two-dimensional distance
6 fields, a corresponding set of sample points with the component of the pixel;

7 determining, for each distance field in the set of two-dimensional distance
8 fields, a corresponding distance using the corresponding set of sample points;

9 combining the corresponding distances to determine a combined distance;
10 and

11 mapping the combined distance to the antialiased intensity of the component
12 of the pixel.

1 2. The method of claim 1 wherein the combining performs a maximum of the
2 corresponding distances to determine the combined distance.

1 3. The method of claim 1 wherein the combining performs an arithmetic average of
2 the corresponding distances to determine the combined distance.

1 4. The method of claim 1 wherein the combining performs a union of the
2 corresponding distances to determine the combined distance.

1 5. The method of claim 1 wherein the combining performs an intersection of the
2 corresponding distances to determine the combined distance.

1 6. The method of claim 1 wherein the combining performs a difference of the
2 corresponding distances to determine the combined distance.

1 7. The method of claim 1 wherein the combining performs an implicit blend of the
2 corresponding distances to determine the combined distance.

1 8. The method of claim 1 wherein the combining performs an arithmetic operation
2 on the corresponding distances to determine the combined distance.

1 9. The method of claim 1 wherein the combining performs a conditional operation
2 on the corresponding distances to determine the combined distance.

1 10. The method of claim 1 wherein the combining uses a procedure to determine
2 the combined distance.

1 11. The method of claim 1 wherein the combining uses a table to determine the
2 combined distance.

1 12. An apparatus for determining an antialiased intensity of a component of a
2 pixel, comprising:

3 a means for representing a set of objects with a set of two-dimensional
4 distance fields, there being one distance field for each object;

5 a means for associating, for each distance field in the set of two-dimensional
6 distance fields, a corresponding set of sample points with the component of the
7 pixel;

8 a means for determining, for each distance field in the set of two-
9 dimensional distance fields, a corresponding distance using the corresponding set
10 of sample points;

11 a means for combining the corresponding distances to determine a combined
12 distance;

13 a means for mapping the combined distance to the antialiased intensity of
14 the component of the pixel; and

15 a display device for displaying the antialiased intensity of the component of
16 the pixel.

1 13. The apparatus of claim 12 wherein the display device is a CRT monitor.

1 14. The apparatus of claim 12 wherein the display device is an LCD monitor.

1 15. The apparatus of claim 12 wherein the display device is an OLED monitor.

1 16. The apparatus of claim 12 wherein the display device comprises a set of
2 components, wherein each component in the set of components is individually
3 addressable.

1 17. The apparatus of claim 12 wherein the display device is a part of a personal
2 digital assistant.

1 18. The apparatus of claim 12 wherein the display device is a part of a
2 communication device.

1 19. The apparatus of claim 12 wherein the display device is a part of a gaming
2 device.

1 20. The apparatus of claim 12 wherein the display device is a part of an appliance.

1 21. The apparatus of claim 12 wherein the display device is a part of an electronic
2 device.